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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,477	01/29/2001	Antonius Hendricus Maria Holtslag	NL 000025 US	1648

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Philips Electronics North American Corp
580 White Plains Rd.
Tarrytown, NY 10591

EXAMINER

NELSON, ALECIA DIANE

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 11/06/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/772,477

Applicant(s)

HOLTSLAG ET AL.

Examiner

Alecia D. Nelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. ***Claims 1, 2, 3, 5, and 8*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wani (EP 0 890 941) in view of Kida et al. (U.S. Patent No. 6,018,329).

With reference to **claims 1, 2, and 8**, Wani teaches a method and apparatus comprising a subfield driven display device for displaying successive image frames/fields on display lines, wherein the image frames/field have an original luminance value data being coded in subfields comprising a group of most significant

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subfields and a group of least significant subfields (see column 3, line 44-column 5, line 55), characterized in that the display apparatus comprises means for selecting different sets of adjacent lines for successive frames/fields, different regions of the display device, and/or different subfields (see column 6, lines 14-51). Wani also teaches that partial interlaced scanning in which the interlace scanning is performed only in subfields corresponding to lower bits that have a short sustaining period and a small contribution to the brightness. The amount of flicker reduces when addressing the subfield corresponding to the lower four bits by interlace scanning, and addressing the upper four bits by non-interlace scanning.

Wani fails to teach that the display apparatus applies a common luminance value when addressing the sets of adjacent lines of the at least one of least significant subfields is performed differently for successive frames, for different regions of the display device, and/or for different subfields. Wani, however, does teach driving the upper and lower bits by different drive methods.

Kida et al. teaches a driving system for a plasma display wherein the control means is provided for controlling the driving means so as to drive neighboring two rows as one unit of scanning by line sequential scanning when the first discrimination signal represents the moving picture signal, and for shifting the rows scanned at the same time by one row electrode in a first field and a second field (see column 2, lines 35-40). It is also taught that the driver (26) produces a pixel data pulse having voltage corresponding to the logic value of each bit of the pixel data corresponding to the sub-

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frame (see column 5, lines 51-54). Kida et al. also describes the emitting periods of the lower four bits (see column 6, lines 13-26) with reference to Figs. 4-6.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow addressing the sets of adjacent lines for successive frames/fields with a common luminance value as taught by Kadi et al., along with the drive method similar to that which is taught by Wani, in order to provide a display system with reduced addressing time thereby increasing display brightness without abrupt intensity changes in the image.

With reference to **claim 3**, Wani teaches that the sets of lines comprise sets of two lines (see column 6, lines 32-35).

With reference to **claim 5**, Wani teaches that the sets of lines are shifted by one or more lines in successive frames (see column 6, lines 36-39).

3. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wani in view of Kadi et al. as applied to **claim 1** above, and further in view of Huang (U.S. Pub No. 20010045924).

With reference to **claim 4**, Wani and Kadi et al. fail to teach that the set of lines comprises three lines.

Huang teaches a driving method and apparatus for a PDP device wherein the scanning lines are divided into three or more groups

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Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow two or more scanning lines to be included in each group, as taught by Huang to that which is taught by Wani and Kadi et al. in order to further reduce the effective multiplex ratio to thereby increase the selection ratio, which improves the display quality.

4. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wani in view of Kadi et al. as applied to **claim 1** above, and further in view of Nagai (U.S. Patent No. 6,448,947).

With reference to **claim 6** Wani and Kadi et al. fails to specifically teach that the display device comprises a first region being the upper half and a second region being the lower half.

Nagai teaches a method and apparatus for driving a plasma display panel wherein the display is comprised of a first upper region and a second lower region (see figure 12).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow a device similar to that which is taught by Wani and Kadi et al. to have the ability to drive an upper and lower region as taught by Nagai in order to provide a plasma display panel with reduce addressing time and a higher quality of brightness due to the extended sustain periods and driving the panel in a upper and lower regions, thereby improving the overall display quality.

5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wani in view of Kadi et al. as applied to **claim 1** above, and further in view of Prince et al. (U.S. Patent No. (5,508,716)).

With reference to **claim 7**, Wani and Kadi et al. fail to specifically teach that the display device wherein the grouping of lines for each successive frame or field and for different regions of the display device is performed in a random manner.

Prince et al. teaches grouping the row electrodes into pairs to reduce the multiplex ratio of the display. It is also taught that in other embodiments wherein the number of electrodes forming each group and the algorithm for changing the groupings of row electrodes in subsequent addressing cycles can be varied (see column 5, lines 20-24).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the device similar to that which is taught by Wani and Kadi et al. to have the ability to change the grouping arrangement as taught by Prince et al. in order to reduce the effective multiplex ratio to thereby increase the selection ratio, which improves the display quality.

Response to Arguments

6. Applicant's arguments filed 8/22/03 have been fully considered but they are not persuasive. The applicant argues that references used in combination fail to teach or fairly suggest the claimed invention. However, Wani teaches driving methods wherein the subfields representing the lower significant bits are displayed by interlace scanning,

and wherein two lines are addressed simultaneously with the same data. Kida et al. discloses assigning the same luminance value to neighboring lines. Kida et al. also teaches light emitting periods for each of the sub-frames of one frame. Furthermore Wani clearly states that partial interface scanning in which the interface scanning is performed only in subfields corresponding to lower bits that have a short sustaining period and a small contribution to the brightness (see column 3, lines 45-58). Therefore it is possible for Wani to use two different drive methods for the upper and lower bits, it would be obvious to allow for at least one of the lower bit to be driven with a common luminance value thereby increasing the quality of the display.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703)305-0143. The examiner can normally be reached on Monday-Friday 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on (703)305-9720. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9700.

adn/ADN
October 29, 2003


DENNIS-DOON CHOW
PRIMARY EXAMINER